Fryer (B. E.)

RECENT ADVANCES

—IN—

OPHTHALMOLOGY

A PAPER READ BEFORE THE STATE MEDICAL SOCIETY OF KANSAS,

—AT THE—

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—BY—

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OPHTHALMOLOGY.

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While it may not be possible to record for the past year any marked additions to our means of diagnosing diseases of the eye or many new methods of treatment, I shall be able, it is hoped, to give in this paper much that is of interest in relating to you, in a synoptical way, an account of some of the more important work which has been done in ophthalmology since our last meeting. I will add that most if not all of this work has been in the past year, as was the case at my last report to this society, that of testing, correcting, re-arranging, and properly rating results obtained by work in previous discoveries.

In August last, the great International Medical Congress met in London, and the report by my friend Dr. Knapp, of the work done in the ophthalmological section, is very full and interesting. This report is published in Knapp's Archives of Ophthalmology, Vol. X, No. 3. A large number of papers were read by prominent oculists from nearly every part of the civilized world. Active discussions were had with a full and free exchange of thought on matters ophthalmological. The section was presided over by Wm. Bowman, who is so well known in ophthalmology. Abstracts of papers to be read, were printed in English, German and French, and distributed, and a very excellent rule was followed, viz: "to

insure accuracy and facilitate publication of the proceedings, speakers are requested, before the conclusion of each meeting, to hand to the secretaries of the Section, in writing, the substance of their speeches, unless this rule be carried out, the discussion cannot appear in the transactions."

Among the first of the official subjects for discussion, was "the antiseptic method in ocular surgery," and this was opened by Professor Horner of Zurick. He took the ground that "the experience of oculists and sugeons, shows that small differences in the size and shape of the wound, and in the patients age and constitution, are less important than in the mode of dressing. An exact analysis of all the cases of primary suppuration after extraction of cataract, leaves no doubt that it depends on infection. On this account, we ought to be able to get better results by antiseptics. For this purpose there is required:"

1. "The prophylactic disinfection of the patient, instruments, sponges, operator, assistants, &c., &c.; special attention has to be paid to the region of the operation (asepsis of the lids, conjunctiva and lachrymal sac), as well as the operating room, if the presence of pathogenic bacteria is suspected (large hospitals, erysipelas, diptheria, &c)."

2. "The antiseptic cleansing of the conjunctival sac after the operation."

3. "Antiseptic treatment in the event of commencing suppuration; disinfection of the conjunctival sac by irrigation, disinfection of the incision and of the anterior chamber; reopening of the wound so as to accomplish asepsis; antiseptic bandage."

Horner has abandoned the spray, but uses a five per cent. solution of carbolic acid for cleansing; applies the wet salicylic bandadge (five per cent. salicylic wadding), which can be easily removed, and covers the whole region of the eye. When irritation or suppuration is present, he pours a two per cent. solution of carbolic acid in the conjunctival sac, opens the wound and removes the products of inflammation from the anterior chamber. Aside from the antiseptic method, Horner dwells upon the importance of the most delicate execution of the operation in all its details.

Dr. Redmond of Turin, in reference to Lister's dressing in cataract extraction, agrees that "unless the method is perfectly carried out, the dressings extended far beyond the orbital region very accurately, we often have, first, striped keratitis; second, whitish infiltration of some parts of the flap; third, a grayish felt-like fibrillary mass forming in the wound and spreading to the pupil. In three hundred and sixty extractions since January 1, 1880, the author has had primary sloughing of the cornea in seven patients, of whom four had off the bandage themselves before the third day. He speaks at length on the reaction of the conjunctiva."

De Wecker, of Paris, advocated the antiseptic method. He uses spray and antiseptic dressing in cataract extraction. His results in the last two years have been varying. In the first year he had only one suppuration of two hundred and fifty cataract extractions; in the last year, six among one hundred and fifty extractions.

Pagenstecker, of Wiesbaden, expresses himself a warm advocate of the full antiseptic procedure; he no longer fears the suppuration from prolapse of the vitreous which was so frequent heretofore in extracting a lens in its capsule.

The chairman, Dr. Bowman, in closing the discussion, said "that whatever opinion anybody might hold at present, certain it was that the subject of antiseptics would for years occupy the minds of all ophthalmic surgeons. He would add that Lister thinks the oil of eucalyptus particularly adapted to the conjunctiva both as an innocuous and sufficient antiseptic in ophthalmic practice.

The second subject for discussion at the ophthalmic section of the congress was Sympathetic Opthalmia, and the mode of its transmission. As this subject is one in which every practitioner of medicine and surgery here is very directly interested, I will not only quote the views held by the participants in the discussion of this subject, but will also in this paper give some important results published since the meeting of the congress. I will also give some of my own views resulting from experience in the disease. And, if it shall be thought, before I conclude, that I have given it too much space, I would urge, as an excuse, my belief that few general practitioners understand the importance or appreciate the necessity of a thorough knowledge not only of the pathology of sym-

pathetic ophthalmia, but also that they neither realize the importance of having clear ideas of its prevention, nor of the proper methods of procedure when this terrible disease has begun.

Before relating the discussion above referred to on sympathetic ophthalmia, it may be well to recall that the term sympathetic ophthalmia includes several ocular lesions which occur in the hitherto sound eye, and which lesions are produced by injury generally (sometimes also by disease,) in the fellow eye. The type lesion in sympathetic ophthalmia is an irido-cyclitis, but we may have also sympathetic iritis, sympathetic choriditis, or sympathetic cyclitis, and any or all of these forms combined. We may also have a sympathetic neuro-retinitis, and also occasionally sympathetic corneal and scleral inflammations. Of the iritic and iridocyclitic forms, we may have the simpler and much less distinctive one, with serous choroiditis only, or we may have the more thoroughly destructive form in which the exudation is a plastic one. Sympathetic glaucoma has been reported, but the evidence against its being a pure case, and dependent upon a sympathetic cause, is open to doubt.

At the congress I have mentioned, Professor N. Snellen, of Utrecht, opened the discussion on "the nature of sympathetic ophthalmia, and the mode of transmission," and the conclusion he arrived at is: first, "the explanation of sympathetic ophthalmia as a reflex action of the ciliary nerves is insufficient. Second, as a clue to further research, the hypothesis that sympathetic ophthalmia is to be regarded as a metastatic specific inflammation in which special parasitical inflammatory elements are conveyed over to the choroid of the sympathising eye by the dilated lymph paths."

Dr. Bailey, of London, then read a paper on the pathology of sympathetic ophthalmia. His conclusions I summarize: The uveatis, which is so strikingly manifest in the well marked and severe cases of this disease, presents certain definite pathological characters by which it can be distinguished histologically from other forms of inflammation. These characters, though they differ a little at difierent parts of the uveal tract, are nearly al ways recognized in both eyes. Though in the sympathising eye the disease often, as is well known, begins as an iritis serosa, with accompanying keratitis punctata, yet here also the peculiar characteris-

tics of sympathic ophthalmia usually become visible at a later stage. The disease is not transmitted from one eye to the other by the passage of structural changes along either optic or ciliary nerves.

Dr. Poncet's (of Cluny) paper followed; the title of it is, "How can sympathetic ophthalmia be produced after enervation." His belief is: "In an eye enucleated after enervation (division of the optic nerves) for sympathetic mischief, examination showed changes of unusual intensity due to optic ciliary neurotomy. "The intra ocular nervebundles showed fatty degeneration. The scar tissue produced, formed a fibrous mass, very dense, and containing many of the peripheral ends of the ciliary nerves. These nerves were affected by interititial sclerosis with irritative compressions of the nerve fibres. The permanence of the sympathetic pains must be attributed to this lesion, terminal neuritis of the ciliary nerves perhaps exists also in those cases where enucleation does not prevent sympathetic mischief."

Dr. Mooren, of Dusseldorf, made some remarks on sympathetic ophthalmia. Twenty-one years ago he described a case of inflammation of the optic nerves, produced by bruising with a pair of scissors, iritis was followed by sympathetic ophthalmia.

Dr. Coleman enucleated an eye, and three days later sympathetic neuritis optica followed in the other previously healthy eye. He cites other similar cases, then quoted Dr. A. Alt, who of one hundred and thirteen eyes removed for causing sympathy, found on microscopic examination, seventy-five affected with inflammatory changes in the optic nerve, whereas the ciliary nerves were healthy.

Professor Grunhagen of Konigsberg, spoke of the experiments of Gessner. Cauterization of the cornea was followed by the appearance of pus and fibrin in the anterior chamber of the same eye, and by the appearance of fibrin and white blood corpuscles in the anterior chamber of the other. This was caused by reflex irritation. He used for his experiments, rabbits and cats, which were first curarized.

Drs. Snellen and Leber tried to produce sympathetic ophthalmia experimentally, but never with even a trace of success.

Dr. Samelsohn of Cologne, thinks it possible that the sympathetic process travels from the choroid along the vessels which

perforate the sclerotic, and creeps on through tenon's capsule and the supravaginal space.

Professsor Pfluger of Berne, has seen sympathetic ophthalmia follow neurotomy.

Dr. Boucheron stated that the cornea may retain its sensibility when all the ciliary nerves are cut; this is owing to recurrent fibres from the supra and infra orbital nerves.

Ranvier found the stumps of several nerves inflamed.

Professor Panas of Paris, related two unsuccessful cases of enucleation; in the one, a child, death from meningitis, in the other, suppuration of the eye ensued.

Several of the ophthalmologists took part in the discussion, manifesting a great interest in it, showing that the disease is second to none in importance. The discussion was closed by Dr. Snellen, who stated that the sympathetic process was transmitted, it is alleged in all immaginable ways. A neurosis by reflex action, a real inflammation propagated through the optic nerves by the sympathetics; the blood vessels, the lymph spaces, &c.

Of rare cases of sympathetic ophthalmia, I mention two of sympathetic neuro relinitis, one following trauma, and the other symblepharon, reported by Webster, in the New York Medical Record, of March, 1881.

Dr. E. S. Peck, in the same journal, reports a case of sympathetic ophthalmia, also from symblepharon.

In regard to the rarity of sympathetic neuro-retinitis, it should be observed as Mauthner in his monograph shows that the probability is, that many cases of this form of the disease include a retinal lesion more frequently than is believed, but the optic media being either blocked by exudation or rendered turbid, it has been impossible during life to determine whether this lesion exists or not.

Dr. W. C. Ayres, in Knapp's Archives, Vol. X. No. 3, contributes an admirable paper on the pathology of sympathetic ophthalmia. In this paper he gives the result of the microscopic examination of eight eyes enucleated for sympathetic trouble. In some of the eyes the optic nerve fibres showed pathological changes; the ciliary

nerves in all these enucleated eyes were more or less pathological, and in many of them the changes were very marked and peculiar. In summarizing, Dr. Ayres says: "In conclusion there seems to be at least two ways by which sympathy can be transmitted, or at least two ways in which it can demonstrate itself; one as optic neuritis, the other as cyclitis, or they may exist simultaneously. In some of the eyes which I have examined the retina was detached, and completely degenerated to a string of connective tissue, running from the papilla to the posterior capsule of the lens, and there does not seem to have been any sympathy, until a time at which such a retina and optic nerve had certainly become inert, as far as any property of nervous transmission is concerned. In these particular eyes, I could see changes in the ciliary nerves which were striking. Chloride of palladium seems to be necessary in the examination of eyes which have hardened, as the gold staining does not work satisfactorily in them, a fact long known to histologists. The nerves were pathological, and I think that the question is certainly one which would warrant the further attention of the most experienced pathologists."

"Those eyes which transmit sympathy within the first fifteen or twenty days, may cause it to make its appearance first in the papilla of the sympathetic eye, whereas the others which cause sympathy through the ciliary nerves may produce it later."

But the most important practical addition to our knowledge of sympathetic ophthalmia that has been had for some time, is the monograph on the subject, by Mauthner of Vienna, which has been admirably translated by Drs. Warren Webster U. S. Army, and J. A. Spaulding of Portland, Maine. The authors' desire is evidently that of popularizing among practitioners of general medicine the specialty to which he belongs, and while he has desired to make his monograph a work extremely useful to the general practitioner, it is believed that it will only in part accomplish this, for, as he says, he has occasionally been obliged to overstep the bounds of general description, and to adopt for a time, the necessary details of the oculist. It is, however, a work which all general practitioners might well read and study thoroughly.

I believe that it may be of advantage here to call attention to

some of the more important portions of this monograph, and to give such summaries as may be of use as guides in preventing and in treating the disease in question for the benfit of those whose general practice may not allow of their perusing the work.

In referring to the pathology of sympathetic ophthalmia, Mauthner gives the following list of sympathetic producing lesions:

Neuralgia of the ciliary nerve; irritation of the retina and of the optic nerves; functional disorder of the retina; inflammation of uveal tract, with or without participation on the part of the ciliary body, so that there may be both a sympathetic choroiditis, without coexisting cyclitis; inflammation of the retina alone or in conjunction with inflammation of the choroid; inflammation of the optic nerve; glaucoma, disease of the vitreous and of the lens. Mauthner is inclined to consider sympathetic irritation as a preliminary stage of sympathetic ophthalmia, though, as he says, some of its simplest forms may persist for a long time without involving the organ in substantial lesion. It is evidently a matter of safety to consider the sympathetic irritation as a preliminary stage of the disease, for, as he says, "It would, however, be incurring a very bold risk to base our therapeutical measures on the assumption that such a state of irritation never becomes transmuted into one of inflammation."

Mauthner describes very admirably the pathology of each form of sympathetic ophthalmia, and measures very accurately the destructive force of each—the knowledge of which has a most direct bearing upon the therapeutical measures to be adopted. He points out clearly the importance of determining between plastic and the serous forms of sympathetic iritis, the latter being the least dangerous of all the sympathetic inflammations which attack the ureal tract. He titles, as do others, the most destructive form of sympathetic ophthalmia, viz.: Sympathetic irido-cyclitis and sympathetic irido-cyclo-chorriditis, as malignant. Very properly he denies that the simpler form—the sympathetic serous, is a pioneer of the iritis maligna, and insists that where the more dangerous form has manifested itself after enucleation of the eye, causing the disease, that the operation itself has been in all probability the cause of the new sympathetic process.

Mauthner, in considering sympathetic affections of the optic nerve, in reference to atrophy, says: "He cannot wholly arrive at the belief that we may occasionally discover the ophthalmoscopic picture of simple atrophy which is of sympathic origin."

Mauthner quotes the case of Schmidt (1874), who discovered opacities in the vitreous, which Schmidt ascribed to a sympathetic source, without a trace of accompanying iritis, or other inflammatory process in ureal tract.

Briere's case (1875) of sympathetic cataract is mentioned with the opinion that the sympathetic cause is open to question. But Kruckrow (in 1880) has described two cases of sympathetic cataract.

In rating the severest forms, Mauthner properly places first the sympathetic inflammations of the iris and ciliary body, the choroid, and also those of the retina and optic nerve.

Mauthner in considering the pathology of sympathetic ophthalmia states what must have suggested itself to every pathologist or practitioner, "that a disease of any part of the body should be the cause of disease in a sympathetical member must in any event seem extraordinary. Human pathology to this time has revealed but few phenomena of this nature."

Mauthuer refers to Norris' paper on sympathetic ophthalmia in reference to analagous occurrences in other portions of the body, viz.: Those observed by Mitchell, Moorhouse and Keen, where a case of gunshot wound of one thigh with complete anesthesia was observed in the corresponding side of the other thigh. I can scarcely consider this as a parallel condition, however.

Mauthner goes over the whole ground very fully and carefully as to the transmitting channels from the injured eye to the sound one, and he does not believe, as many authorities do, that the transmitting influence is carried by the ciliary nerves only, or by the optic nerve only, but that the nerve fibres of both these sets of nerves may and do pass the sympathetic influence from one eye to the other. As he very correctly states, it would be scarcely logical to give the blame to the ciliary nerves where a sympathetic optic neuritis only existed, or to acuse the optic nerve of carrying the sympathetic process in a sympathetic irido cyclitis. He believes as

I have stated and as do others, that both the ciliary and optic nerves are the channels.

In reference to a transmission by vessels he refers to the probability of it by alterations which occur in the choroidal vessels of one eye being transmitted to the chief arterial trunk, from thence into the internal carotid and so to the circle of willis, and thence to the fellow ophthalmic artery and to the fellow choroid. But he looks upon this mode as indefinite and quite unsettled.

As a summary of the views of the transmission of the sympathetic process, I quote the following: "We have on the whole no right at all to ask whether the sympathetic affection is transmitted along the optic nerves, or along the ciliary nerves; nor can we ask whether the transmission takes place along the one path more frequently than along the other. For the transmission may be affected in both ways. But by this, however, we are not to understand that one and the same morbid process can be transmitted, now along the one path, and now along the other. On the contrary, irritation and inflammatory conditions are transmitted from the optic nerves and retina along the optic nerves, while those inflammatory processes which are chiefly observed in that portion of the eye which is nourished by the ciliary nerves, especially in the uveal tract, are transmitted along the ciliary nerves. There is not the least doubt that the sympathetic inflammation may frequently be transmitted along both paths at once, or at short intervals, so that many symptoms in sympathetic affections of the uveal tract (among others the functional disturbance), are not to be attributed to the inflammation of the uveal tract, but to a simultaneous inflammation of the retina and optic nerve."

In reference to the time how soon the sympathetic process may appear, Mauthner states that he knows of no case where sympathetic ophthalmia occurred sooner than four weeks after the injury and he denies that the time is ever after a few days.

As is well known by oculists, as long a period as twenty-six years may elapse before the disease appears. I have lately seen a case in which the process was just commencing in an eye destroyed thirty-three years ago, and I would also mention one which I saw last winter of sympathetic chorio-retinitis with opacities in the

vitreous appearing after a lapse of thirteen years from the destruction of the irritating eye.

In considering the operation of enucleation as a preventative measure, Mauthner summarizes with the following strong and clear expression: "My creed in the question of enucleation runs briefly thus: It may be performed as a preventive; it must be performed in the stage of irritation; it cannot be performed in iritis serosa and iritis plastica; it can be performed in irido-cyclitis plastica, provided the eye causing the sympathy is totally blind, but not in a state of violent irritation."

With regard to these words of Mauthner I would say that they furnish a safe guide upon which reliance can be placed in deciding as to the enucleation of an eye which may provoke or has already provoked a sympathetic condition in its fellow. In reference to one portion only of Mauthner's creed do I think any doubt should exist, and that is as to whether enucleation of a destroyed eye should be done when iritis plastica exists in its fellow. Mauthner believes in this condition that the sympathetic process is increased by enucleating the irritating eye; that this is not always so I wil quote a case of my own. A man was brought to me on the 4th of November last in whom the left eye had been destroyed six years previously by gonorrhœal ophthalmia, and the eye was shrunk to half its size, with not a particle of vision. It was painful on pressure over the region of the ciliary body, but there was no spontaneous pain in the left eye; in the right eye there was well marked sympathetic plastic iritis, with a quite firm plug of lymph closing the pupil, and evidently lymph was exuded behind the iris upon the lens. V was reduced so that fingers only could be counted at one foot. I enucleated the destroyed eye. The day after the operation the vision had increased so that fingers could be counted at three feet, and this improvement went on with one or two slight relapses until now the man can see to get about his farm alone and attend to ordinary work thereon. In this case the enucleation seemed the only alternative, but had there been even a very slight vision in the left eye I should not have operated; for obviously the chances for sight continuing good in a damaged eye is better than that of the vision in an eye affected by sympathetic iritis plastica.

Mauthner is unhesitating in his recommendation of preventive enucleation being done early, and says very properly that "the fact that the eye which is liable to cause a sympathetic disease at some future time, still possesses a certain amount of vision, never contra-indicates the performance of preventive enucleation. Those who resort to preventive enucleation on principle, or who regard it as necessary duty to advise the enucleation of an eye in any special cases, should never let themselves be led astray by the circumstance that the injured or irritated organ still possesses some remnant of vision. Of course, however, this refers only to the condition before the sympathizing process is started." He says again, "when the other eye is in a state of irritation, an eye which still possesses vision must be immediately sacrificed; success is too certain and to much is at stake for the oculist to hesitate. If in such a case he meets the rare misfortune of seeing the irritation become developed into inflammation despite the enucleation, he can say with confidence, "All is lost but not my peace of mind." The surgeon cannot act differently, and such a tragic accident as just suggested is so rare that the vast majority of operators pass through life without meeting with such a lamentable experience. It may be well to add that the faculty of the University of Strasburg announced for a prize essay for 1881-2, for a subject the critical investigation of the sympathetic affections of the eye, showing the importance of the whole subject.

In reference to the operation of optico-ciliary neurotomy or neurectomy as a substitute for enucleation, I will state that it does not gain many supporters, operations having been published in which enucleation had to follow.

Among the advances in surgical procedures may be mentioned that of the peripheral incision of the lens capsule in cataract extractions. In a report of a hundred extractions (the seventh) by my friend Dr. Knapp, of New York, it will be seen that this method was adopted with good success. Other operators speak in favor of this method. I have lately tried it and can speak also in its favor.

In reference to the so-called cure of cataract by electricity, which a New York electrician some time since claimed, Dr. Noyes, of

New York, at the last meeting of the American Opthalmological Society, spoke of a case of alleged cure, which case he had had an opportunity to examine prior to the electrical treatment, when he found a few striæ in the lens, showing incipient cataract. V was $\frac{20}{70}$ in one eye and $\frac{20}{50}$ in the other. Nearly two years afterwards, during which time it was claimed the case had been cured, Dr. Noyes examined the case again. He then found extreme chorridal atrophy, and vision $\frac{20}{150}$ and $\frac{20}{200}$.

The operation of sclerotomy is evidently gaining many supporters, as experience with it is had. A number of oculists have reported in its favor.

The operation to be employed in the various forms of glaucoma was one of the subjects discussed in the ophthalmological section of the International Medical Congress herein referred to, and De Wecker of Paris introduced the discussion in reference to sclerotomy for glaucoma. De Wecker said sclerotomy will be eagerly resorted to in those cases in which iridectomy is known to be dangerous, viz.: In glaucoma haemorrhagicum and congenitale, in simple chronic glaucoma, where the visual field is contracted nearly to the point of fixation, and whenever, after an iridectomy, the vision has deteriorated, or when the good results of this operation, after a period, begin to diminish.

"Shall we say that all glaucomas not amenable to iridectomy are curable by sclerotomy? Unfortunately no; for exceptional cases occur in which repeated sclerotomies, as well as subsequent iridectomy, are ineffectual. Experience has taught us that a glaucoma simplex which has resisted sclerotomy is not to be cured by iridectomy. We get the most striking results from iridectomy in acute glaucoma; and we can go so far as to say that the more acute the glaucoma the more successful the operation is likely to be."

"Although in acute glaucoma we obtain good results with sclerotomy, the difficulty in its execution and the absence of superiority in its remedial effects, are reasons which keep us from preferring it to an operation which even when moderately well executed, still yields excellent results."

"Another reason rendering sclerotomy less applicable is, that it is indispensible for its success, that there should be a perfect con-

traction of the pupil under myotics, which forms the only guaranty against entanglement of the iris in the wound."

Dr. Bader of London, stated that he had performed sclerotomy in all forms of glaucoma these four years. He thinks it superior to irridectomy. He favors and intentionally produces a prolapse of the iris and a small staphyloma under the conjunctiva; makes the incision as subconjunctivally as possible; leaves no scleral bridge undivided. The results he says are more perfect; some patients operated on in this manner were presented.

My friend Dr. Knapp states that he had performed sclerotomy for chronic glaucoma during the last eighteen months exclusively. The result has been encouraging—better it seems than iridectomy under like conditions—no case turned into malignant glaucoma. He had no accidents, but in a case of hemorrhagic glaucoma, external suppuration and panophthalmitis followed a correct operation. The other eye affected with chronic glaucoma without hemorrhages was operated on in the same way and at the same time, and making the kindest recovery. Dr. Knapp thinks that in the former the operation was followed by intra-ocular hemorrhage, which exceptionally occurs after extractions and always destroys the eye ball.

Dr. Landesburg of Philadelphia, in Medical and Surgical Reporter, February 26, 1881, records a case of acute glaucoma in a child of eight years, cured by sclerotomy with an additional account of nine sclerotomies performed for glaucoma in adults.

"As to the outcome of his experience, Landersberg arrived at the conclusion, that the operation of sclerotomy should supplant iridectomy in (1) absolute glaucoma, (2) secondary glaucoma and glaucoma-like conditions of the eye, and in cases of glaucoma where iridectomy has already been tried but the process has returned."

I have done the operation since our last meeting, and in each case the result was good.

Gowers in the British Medical Journal, Vol. XXI, page 786, describes two cases of optic neuritis; in one case the disease was cured rapidly by use of iron. Gowers states he has never seen such

a rapid development or disappearance from cerebral causes. "Absolute rest of both eyes and body is necessary to insure recovery."

Samelsohn, at the meeting of the Ophthalmological Society at Heidelberg in September last, reported a case of embolism of one branch of the central artery of the retina. There was of course defect in the visual field supplied by the plugged vessel, but the defect disappeared after a time, as was also the result in a case of total embolism of the central artery. Samelsohn explains this restoration of vision by a cilio-retinal anastomosis, which in the first case he discovered with the ophthalmoscope.

In the British Medical Journal for 1881, Walters, of Manchester, reported a case of embolism of the central retinal artery occurring in phlegmasia dolens. There was anemia retina, the vessels being scarcely discernable; the optic disc white, and the macula of a redish blue. The case resulted in a total retinal detachment.

Dr. Little, of Philadelphia, read a paper on glaucoma at the last American Ophthalmological Society Meeting, in which he gives an account of four cases affecting both eyes; all the patients were under twenty years of age. Three of the cases were in one family. Hypermetropia existed in all. In one case glaucoma fulminans showed itself after atropine.

Schenkl, in the Prague Medical Wochenschrift, Vol. XII, page 413, quotes four cases of glaucoma in a mother and three children almost at the same age.

Of ocular symptoms in ataxia, Hughlings Jackson states that in six of nineteen cases, the first symptoms were diplopia and white atrophy in one case.

Haussman has practiced, with success as a preventive of ophthalmia neonatorum, frequent use of the injection into the vagina of the paturient woman a two per cent. solution of carbolic acid, before confinement, and the cleansing of the eyes of the infant immediately after its birth, with pieces of soft lint moistned with a one per cent. solution of carbolic acid. The practice of the washing of the vagina with the solution of carbolic acid as a preventative of ophthalmia neonatorum, I have taught and urged for several years.

Ohlhausen has also used the carbolic acid solution with the same object.

Abegg urges the use as a vaginal injection, with the same object, a two per cent. solution of nitrate of silver, and washing the child's eyes with water only.

Hirschberg, at the meeting of the Ophthalmological Society at Heidelberg, in September last, spoke of a case of acute and transient one-sided neuro-retinitis, and double-sided retinal hemorrhage after vomiting. One optic nerve became atrophic, the other normal. Three years after the patient died, after repeated hæmatemesis and ulcers of the stomach, old blood was found in the intervaginal space of the optic nerve.

Several cases of quinia amaurosis were reported by oculists during the year, and Knapp made some remarks on this condition at the meeting at Heidelberg above referred to.

That there have been authentic cases of amaurosis from quinia there can be no doubt, but after considering many of the cases reported at different times, I have come to the conclusion that the production of temporary blindness (no permanent blindness ever appears from quinia) as dependant solely on quinia, but rarely occurs, several of the cases heretofore reported, having had in them complications which readily might be considered as the cause of the trouble without the need for a blame being giving to quinia. Moreover, in malarious regions, such large doses of quinia are frequently given that we should doubtless hear of more cases and ought to meet more if quinia often produces this trouble, still, believing that temporary amaurosis can be produced by quinia, it may be well, when having to give, especially to [illegible] such large doses of the drug, to insist on the patients keeping the head low.

During the past year the use of eserine has been more general in ophthalmic medicine and surgery. In the prodromal stages of glaucoma, it sometimes seems to prevent the further development of the disease. It is useful too, before doing sclerotomy for glaucoma, and De Wecker uses it after cataract extraction. Its effect in stimulating the healing of indolent corneal ulcers is remarkable. I have during the year had some admirable results in

treating this class of corneal ulcers with eserine, not only from the hastening of cicatrization but also from its diminishing the size of the leucoma after healing is complete.

Duboisia, the new mydriatic, is fully recognized now as essential. It can generally substitute the use of the atropia without producing local irritation where the latter drug may have done so. The effect of Duboisia is more transient than atropia.

Dr. N. A. White, in the Virginia Medical Monthly, of October 1880, reported a case of intoxication from the local use of duboisia in eye trouble. Dr. White reports in the same paper the use of jaborandi and pilocarpine in cases of atrophy of the optic nerve, chronic neuro-retinitis, also hemorrhage and opacities in the vitreous, with benefit.

Dr. Dianioux at the ophthalmic section of the last International Congress, read a paper on the treatment of detachment of the retina by injections of pilocarpine, giving sixteen cases, of which six were cured, eight improved, and two unimproved.